

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : SONY CORP

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## (54) SOLID-STATE IMAGE PICKUP DEVICE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide an image pickup device in which the dynamic range is expanded without generating fixed pattern noise resulting from unevenness of saturated charge amounts  $Q_s$  of each picture element.

**SOLUTION:** Each light receiving section 1 is divided into two light receiving areas 12a, 12b whose sensitivity differs from each other, among signal charges read from the two light receiving areas 12a, 12b of each light receiving section 1, signal charges of the light receiving areas with the same sensitivity in adjacent light receiving sections are mixed in vertical transfer registers 2-1-2-n and the mixed charges are transferred vertically and the signal charges in the light receiving areas with different sensitivity are transferred separately horizontally while being distributed to two horizontal transfer registers 3, 4 by a distribution transfer gate 5, the charges are converted into a signal voltage by charge detection sections 6, 7 and the converted voltage is fed to an external signal processing circuit 30, in which the signal with higher sensitivity is clipped and the resulting signal is added to a signal at a lower sensitivity to obtain a video signal output.

